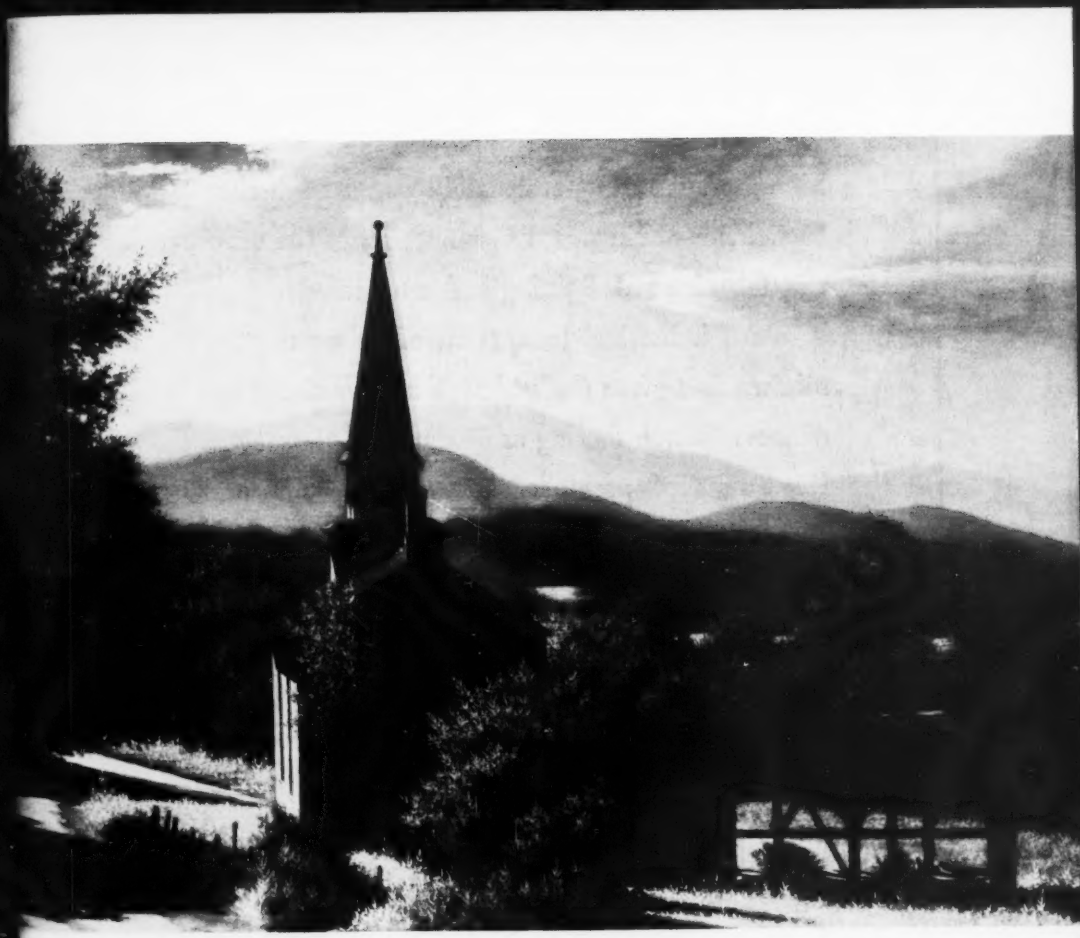
CARNEGIE

Magazine



THE CHURCH IN WILLOW

"*We shall better know how to deal with them another time.*" General Braddock after his defeat at Turtle Creek.

☆

Braddock's words represent the epitome of hindsight. The General, lately come from the battlefields of Europe, knew nothing of the tactics of backwoods fighting in America.

An individual inexperienced in estate administration often finds himself in a similar predicament when serving as executor of an estate. Regardless of previous success in his chosen business or profession, he is confronted with new problems and unfamiliar technicalities.

Therefore many persons, who wish to obtain the benefits of experience, name a trust institution as executor of their wills.

MELLON NATIONAL BANK AND TRUST COMPANY
PITTSBURGH

CALENDAR OF EVENTS

CARNEGIE INSTITUTE

4400 Forbes Street, Pittsburgh 13, Pennsylvania

Mondays 10:00 a.m. to 10:00 p.m.
Other weekdays 10:00 a.m. to 5:00 p.m.
Sundays 2:00 to 6:00 p.m.
Cafeteria open for visitors to the building
Weekdays 12:15 p.m. to 1:30 p.m., Mondays 6:00 to 8:00 p.m.

CARNEGIE LIBRARY OF PITTSBURGH

Weekdays 9:00 a.m. to 9:00 p.m.
Reference services until 10:00 p.m. weekdays
Sundays 2:00 to 6:00 p.m., reference services only

Open to the public every day without charge

ILLUSTRATED LECTURES

Monday nights in Music Hall, 8:30 o'clock
Seats reserved until 8:30 p.m.
for members of the Carnegie Institute Society

Modern Art and the Old Masters—*January 17*
Dudley Crafts Watson
Dr. Watson, extension lecturer for The Art Institute of Chicago, returns to Pittsburgh to give one of his always popular and illuminating talks. He will illustrate his remarks with colored slides.

Colorful Austria—*January 24*
Thomas Benner
Mr. Benner has been chief of the education division, United States Element of Allied Commissions, in Austria since 1946. He will show his own full-length color motion picture.

The Great Barrier Reef of Australia—*January 31*
Arthur O'Connor
Known as "the Australian Reporter," Mr. O'Connor can be counted on to give a fascinating account of the land "down under," its aborigines and cities, its amazing animals, fish, and fowl. Color motion pictures.

The Antarctic—*February 7*
Harry Holt Richardson
Well-known for his travels with Admiral Byrd on two expeditions, Dr. Richardson will show a new and exciting color film.

The Story of the Organ—*February 14*
Marshall Bidwell
The organist and director of music at Carnegie Institute Music Hall will show slides tracing the evolution of the organ and will demonstrate the practically limitless resources of the famous instrument in the Music Hall.

FILMS OF YESTERYEAR

Sundays at 8:00 p.m., Music Hall

Three early Westerns—*January 16*
The Great Train Robbery (1903)
The Last Card (1915) (William S. Hart)
The Covered Wagon (1923) (Jesse L. Lasky)

The Cabinet of Dr. Caligari—*January 23*
(German, 1919)

Sunrise—*January 30*
(Janet Gaynor)

Broken Blossoms—*February 6*
(Lillian Gish, Richard Barthelmess, directed by D. W. Griffith, 1919)

CRYSTALS AND JADES

A dramatic new display of crystals and jades from various collections of the Museum will open January 23 in Exhibit Room 6, to continue for a year.

(*Over*)

THE CHURCH IN WILLOW

Stanley William Crane's painting by a wide margin won the popular prize award of $200 in the annual exhibition, Painting in the United States, 1948, at Carnegie Institute. The prize winner was determined by vote of visitors to the galleries from November 21 to December 5. The exhibit ran from October 14 through December 12. The scene depicted is in the town of Willow, New York, not far from Woodstock, where the artist lives. For a discussion of Mr. Crane's work and the popular prize competition, turn to page 188.

BEQUESTS—In making a will, money left to Carnegie Institute, Carnegie Institute of Technology, or Carnegie Library of Pittsburgh should be covered by the following phrase: I do hereby give and bequeath to (Carnegie Institute) or (Carnegie Institute of Technology) or (Carnegie Library of Pittsburgh) in the City of Pittsburgh, Pennsylvania..... .....Dollars

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L'HYMNE INTÉRIEURE

A bronze figure by Émile Antoine Bourdelle that has recently been presented for the permanent collection by Mrs. Lambert Oppenheim may be viewed on the second floor of the Institute. (See page 190.)

ASSOCIATED ARTISTS

The thirty-ninth annual exhibition of the Associated Artists of Pittsburgh will be held in the third-floor art galleries from February 11 through March 9, with press preview the evening of February 10 from 8:00 to 11:00 P.M.

STEUBEN GLASS WITH ORIGINAL DRAWINGS

Fifteen signed pieces of Steuben glass with the engraving drawings by world-famed artists are on display in Gallery E, second floor; also a considerable collection of other cut, molded, and blown Steuben glass. The exhibit will continue through February 13. (See page 181).

FINE PRINTS

More than one hundred prints signed by such names as Dürer, Mantegna, Rembrandt, Piranesi, Goya, Whistler, Pennell, Zorn, Blampied, and other contemporaries are on display on the balcony of the Hall of Sculpture through February 27. This notable collection is the recent gift of Kenneth Seaver, of Pittsburgh.

LITHOGRAPHS BY COLEMAN

A series of lithographs, "Little Old New York," by Glenn O. Coleman (1887-1932) that was presented to the Institute by George H. Taber the year of the artist's death are on view in Gallery K, third floor, through this month.

MASKS OF THE WORLD

The fantastic exhibit of masks from fourteen countries and many periods will continue in the Museum through March 6. By January 6 it had attracted 72,115 visitors.

SEA BOTTOM TO MOUNTAIN TOP

The Dixon collection of caterpillars, butterflies, and moths has replaced the Avinoff collection of Parnassius in the display of "Rocks, Glass and Butterflies," to continue indefinitely in Room 1.

"CHILDREN TO PALESTINE"

Twenty-six wood cuts from Cyprus, photographs from *A Palestine Picture*, some two dozen paintings and other art and craft work done by children in Israel will be displayed in the Carnegie Library during February. The collection is lent by a Christian-Jewish committee working for the rescue of Jewish refugee children and their rehabilitation in Palestine.

ORGAN RECITALS

MUSIC HALL

MARSHALL BIDWELL, ORGANIST AND DIRECTOR

SATURDAYS AT 8:15 P.M.

SUNDAYS AT 4:00 P.M.

TECH LITTLE THEATRE

"Corner of God" by Louis Adelman

January 14 through 21, 8:15 P.M.

January 21 matinee, 3:30 P.M.

RECITALS

Chamber Music—*January 23*
8:15 P.M., Exhibition Room, Carnegie Tech
Student Recital. The public is invited.

Chamber Music—*January 25*
8:15 P.M., Exhibition Room, Carnegie Tech
Bernard Goldberg, Pittsburgh Symphony (flute)
Edward Druzinsky, Pittsburgh Symphony (harp)
Eugene Phillips, Pittsburgh Symphony (viola)
Sponsorship of Phi Mu Alpha. Public invited.

Goesta Andreasson, violinist—*February 13*
8:30 P.M., Tech Little Theatre
Continuing the series of faculty recitals.
Nelson Whitaker will accompany. Tickets obtainable from Carnegie Tech.

BROADCASTS

TUESDAYS AT 6:45 P.M., FROM WCAE

OPEN MEETINGS

IN CARNEGIE INSTITUTE BUILDING

Guild of Artists—6:45 P.M., each Monday

Guild of Naturalists—6:45 P.M., each Monday

Glass Club—8:00 P.M., January 18
"Reproductions in Glass"—Edward Robinson

Audubon Society—8:00 P.M., January 26
"Our Bird Census on December 26"

Botanical Society—8:15 P.M., February 9
"Journey along the Alcan"—Mrs. Thomas H. Piatt

Explorers Club—8:15 P.M., February 8

Numismatic Society—8:00 P.M., February 1

STORY HOUR

BOYS AND GIRLS ROOM OF THE LIBRARY

Over five years old—Saturdays at 10:30 A.M.

Three to five—Alternate Wednesdays at 10:30 A.M.
(January 19, February 2)

On the radio—WCAE every Monday and Wednesday, 1:15 P.M.

MOVIES FOR CHILDREN

SATURDAYS AT 2:15 P.M.

LECTURE HALL

WE COLLECTED INSECTS IN WYOMING

By George E. Wallace

GEORGE E. WALLACE

The baaing of sheep quavered thinly over the sage. A morning wind rustled the tent roof softly. In the distance, through the tent flap, I could barely distinguish the sheep that had awakened me. A herder and his two dogs, appearing little more than three dark specks, moved among the flock. My sleep-drugged eyes took stock of my surroundings, at first with drowsy incomprehension, then with sharpening recollection.

Barely ten hours earlier, on May 28, John Bauer and I had arrived here at Oregon Butte, about twenty miles north of Farson, Wyoming, near the Wind River Mountains. Our coming marked the beginning of a three-months' collecting trip in the state for insects, primarily for moths and butterflies for the Museum at Carnegie Institute. As our car had labored out of the last wash, however, disappointment had awaited us. The ponds which we had expected to find at Oregon Butte had been converted into a reservoir that was being used as a watering place for sheep. The resulting pollution had made the water unfit for use. Fortunately we had brought enough water to last through supper and this morning's breakfast.

Pacific Springs, our next station about one hundred miles away, was a pleasant contrast to Oregon Butte. At least we could appreciate the clear cold springs that welled up in the middle of a lush meadow. Welcome too were the ranch buildings there, tumble-down though they were, for gray days settled in with a continual wind that was biting cold. The few insects that we found on our chilly excursions were chiefly the water boatman and aquatic beetles that swam and dove in the shallower stretches of Pacific Creek. It was with little regret that we left the Wind River country for Jackson Hole and Grand Teton National Park to the north, still in Wyoming.

Few settings are so ideal for the camper as our next tenting ground on String Lake in Grand Teton National Forest. The shores are rimmed with lodgepole pine, Engelmann's spruce and Douglas fir. Nestling at the foot of the Teton range, String Lake forms a narrow connecting link between its larger sister lakes, Leigh Lake to the north and Jenny Lake on the south. Fed by the mountain streams that cascade down from the melting glaciers, the lake waters are crystallike in their clarity.

The abundance of wild life that we found around us at String Lake was a constant source of wonder. Beaver swam up and down the lake past our tent door. Coyotes in the evening yelped their challenge from the mountainside above us. Moose fed nightly along the shore. In the deeper parts of the lake, where the water ran swiftest, trout swung, awaiting the luckless insects carried down by the current. At mealtime the suave camp robber seldom failed to put in an appearance, and on occasion the vividly colored western tanager was also our dinner guest.

Here by the Tetons the days were warm,

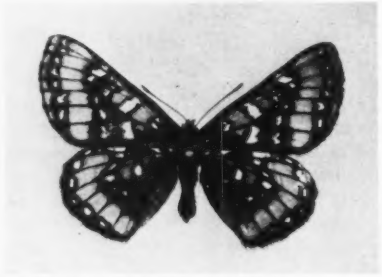
George E. Wallace has been connected with the Museum since 1937, when he took part in a field trip to Utah. He was appointed assistant curator of entomology in 1941. A graduate of the University of Pittsburgh in 1933, he took his doctor's degree in zoology also from that institution. During World War II he served as technician fourth grade in the Tank Destroyers for nearly four years, part of the time in Europe with the Third Army.

John Bauer, who accompanied Dr. Wallace to Wyoming last summer, has been preparator in the Museum's entomological division since 1938. The "bug business" has been his hobby since a boy of fifteen. During the war Mr. Bauer served three years in the China-Burma-India sector. For half of that time he was with the topographical unit of the Engineers, then was transferred to the Air Corps.

Later this year Dr. Wallace will be conducting some of the classes for the Guild of Naturalists that meets at the Museum each Monday evening, and will lead the group in some of the short field trips that are planned.

and, collecting among the lupines, I relearned the individual dodges and artifices the various butterflies employ to evade capture. The zipping flight of the skippers; the quick drop of the alarmed nymphalid who seems to have a magician's trick of vanishing into thin air; the tantalizing, deceptively slow-appearing flight of the bluets and coppers. I could cope with most of such lepidopterous wiles, but one of the small hairstreak butterflies I could never take on the wing. Brown above, brilliant green below, its blurred appearance while in flight confused me utterly. John Bauer, however, was too experienced in the ways of butterflies to be baffled by any of their subterfuges. His quick eye recognized different species at amazing distances, and woe betide the specimen spied that belonged in the "desired" category.

Like gold, the desiderata of insects seem to occur in veins and pockets. One such pocket we discovered beside a small pond near Jackson Lake. A dense growth of willows hid the pond almost completely from view. Squeezed between the willows and encroaching lodgepole pines was a narrow grassy strip that widened in places to form small meadows. Here where the monkshood grew, we found the beautiful *Melitaea gillettii*. In its rich coat of black and brick red, it ranks among the handsomest of the nymphalids.



MELITAEA GILLETTII—A BUTTERFLY PRIZE OF THE TETON COUNTRY

The favorite of our afternoon collecting areas was near Jenny Lake at the juncture of the Snake River and Cottonwood Creek. A stony wagon road led off a nearby bench down to the cottonwoods, and beside the roadway the red flowers of the spirea bloomed in profusion. Within this natural rock garden buzzed and flew a multitude of insects.

There the red-chapped bumblebee strove for nectar, oblivious to all else. Here flitted a bluet, fastidious in its choice of flower. A host of flies and bees zoomed about, their numbers confusing to the eye. Among the flies buzzed two counterfeits of the insect world—mimics of the bumblebee. One, a syrphus fly dressed in the furry red and gold uniform of the bumblebee, flew from flower to flower seeking nectar. The other mimic, dressed in the same pattern, was a robber fly. Like all its predator kind, it would sit motionless on a branch or leaf awaiting an opportunity to seize some passing insect.

Occasionally a small fly was to be seen grappling momentarily with a bumblebee. This was a parasitic fly of the family Conopidae. Apparently these flies lay their eggs on or in the bodies of bumblebees in this way, for the developing fly larvae are found within the bodies of bumblebees, the bees eventually dying from such an infestation.

Among the rocks ran and flew the various solitary bees and wasps hunting prey or seeking nesting sites. Most beautiful of these were the cuckoo wasps, also known as gold wasps. As they ran nervously here and there they glittered like jewels, in colors ranging from violet through blue to brilliant green-gold. Their heavy sparkling armor stands them in good stead, for their habit of depositing their eggs in the nests of other wasps may occasionally involve them in a rough-and-tumble brawl with an irate nest-maker. At such times they avoid injury by rolling up, armadillo fashion, until a chance for escape occurs.

Interesting though day collecting may be, to the lepidopterist it is the night that brings the very acme of all collecting. And to us particularly, the nightly excursions for moths represented a culmination of the day's activities. Immediately after supper the sheet and gas lanterns were made ready. A quart can was filled with "schmeer," as John called the syrup concoction that he used for baiting. Then, loaded down with equipment, we would be off to the collecting area that we had chosen during the day. The sheet and the gas lanterns would be placed on a ridge where the light would better attract the moths. On a nearby trail John would soon have

thirty or forty trees daubed with bait, for the bait line must be set before dusk. It consists, simply, of passing a wide paint brush that has been dipped in the "schmeer" across the trunk of every tree along a trail, to leave a strip painted with the concoction at about breast height. We would not go off a trail for fear of getting resting places on tree trunks and dead leaves.

Along the western shore of Jenny Lake runs a trail through heavy stands of Engelmann's spruce. Here was promise of good moth-hunting. So it was on a moist still night, the stillness occasionally broken by showers, that we ran the longest bait line of the year, two miles in length.

THREE WOODLAND MEASURING-WORM MOTHS COLLECTED THIS SUMMER

lost in the dark forest round about.

At first, early in the season, results were poor. No matter how warm the day seemed, the cold would come creeping back after sundown. With frosty breath and chilled noses we would maintain our stubborn vigil beside the lantern. Eventually we would return to our tents downcast, remarking in disgruntlement that the moths at least had better sense than we, not to be out in such weather.

As the weeks passed, however, and as we moved to the succeeding stations on our itinerary—Moran, Meeteetse, Cody, and back to String Lake again—warm weather increased the tempo of night collecting. Especially good nights at the latter two localities found us virtually scrambling for the moths as they came thudding into the sheet. Although the moths swarmed to the light almost faster than we could capture them, it was the potent "schmeer" that accounted for most of the night specimens.

On our return to String Lake in August, some of the more desirable woodland geometrid or measuring-worm moths were coming forth in abundance. We wanted particularly the geometrids of the subfamily Larentiinae, those sprightly little forest moths whose wings are patterned in the most intricate designs in usually brown and gray—designs that so effectively camouflage the moths that they are rarely seen in daylight unless disturbed from their

There was an especial enchantment to the woods this wet still night. The lantern light fell on the tall columns of the spruce, whose tops were lost overhead in mysterious brooding gloom. At intervals along the trail where a mountain stream had become obstructed the lights glimmered over long dark aisles of water, bayoulike in appearance. Here we either had to turn off the trail and make our way through the water-laden bushes, or tread gingerly along the slippery logs that bordered the way.

Moths could be seen flying, but evidently the witchery of this night had released them from their habitual attraction to lights and baits. Among these stragglers John's quick eye detected some desirable species, and by dint of hard scrambling and equally hard swings of the hat and butterfly net we managed to get several into the cyanide jar. But picking up such stragglers could hardly be called collecting. Better luck we knew awaited us along the path. Then on a mucky stretch of trail we found them! Wings held erect over their backs, they sat by the dozens sipping moisture from the wet soil.

At our approach they fluttered up, wheeling about the lanterns in a madcap dance. Ah, this was more like it! We set to work swiftly with our killing jars. But we had barely captured two or three specimens before the dancing throng had faded away. We looked about. On the ground

sat one individual still greedy for moisture. The others, the spell of the light wearing off, had flitted into the woods.

But now John really showed his ingenuity as a collector. A little farther on, in a similar stretch of trail, tippled another woodland crew. This time we refrained from advancing the light. Instead, John, carrying only his cyanide jar and insect forceps, stole quietly forward until he was among the group. Then quickly he picked up moth after moth, seizing each one by both erect wings to prevent fluttering, and with almost the same movement slipping it into the cyanide jar.

I had remained by the lamp on the chance that if any moths were frightened away, they might be drawn to the light. John, however, worked so deftly that not a single one of the Larentiinae took alarm. It was a most successful kidnapping. And then anticlimax! As we stooped to drink at a tiny rivulet, there on the banks—tiny saillike wings standing out in sharp contrast to the green moss—were more of the Larentiinae. So the kidnapping operations were repeated, as they were several more times on our rounds.

Time passed rapidly and suddenly diminishing returns and heavy eyelids urged an ending to the night's work. Campward we trudged, the long shadows gyrating crazily in rhythm to our bobbing lanterns. At a clearing we looked up. The moon was out. Yes, it would be good collecting tomorrow.

MASTERPIECES FROM THE BERLIN MUSEUMS

At last Pittsburgh is to see the Masterpieces from the Berlin Museums. These are the paintings which were the proud possessions of the Kaiser Friedrich Museum and the Nationalgalerie in Berlin. The paintings were discovered by the Army in the Merkers salt mines, southwest of Erfurt, and brought to the United States for safekeeping in October 1945. They were placed in storage at the National Gallery of Art in Washington, D.C. In March 1948, when the decision was made that the time had come to return the collection to Germany, it was arranged that it be put on exhibition in the National Gallery so that people in this country might see the paintings. The exhibition in Washington opened on March 17, 1948, and closed April 25. During that period almost a million persons visited the gallery. Since then, through the co-operation of the Department of the Army, the paintings have been shown in important museums throughout the United States.

There will be ninety-five paintings in the exhibition at Carnegie Institute. The show will open with a preview for members of the Carnegie Institute Society and their guests on Saturday evening, February 26, from eight to eleven o'clock. The exhibition will be open to the public on Sunday, February 27, and will continue through March 14. Weekdays the galleries in which the paintings will be hung will be open 10:00 A.M. to 10:00 P.M., and Sundays, 2:00 to 6:00 P.M. Under instructions of the Department of the Army an admission of thirty cents will be charged, twenty-five cents of which will go to the Army for the relief of German children in the American Sector, and five cents will be a federal tax. Because of the large attendance anticipated, no groups will be conducted through the exhibition, but there will be illustrated talks on the collection.

A catalogue containing reproductions in black-and-white of all the paintings will be on sale, as well as a number of individual color reproductions.

ASSOCIATED ARTISTS JURY

The jury for the Associated Artists annual exhibition, to meet in Pittsburgh on Saturday, January 22, includes three painters of national reputation: German-born George Grosz, of Douglaston, New York, known for his satirical drawings; Joe Jones, of Morristown, New Jersey, muralist and war correspondent for *Life;* and Russian-born Morris Kantor, of New York City, semi-abstract painter; also the world-famed sculptor, Alexander Archipenko, who heads his own art schools in New York City and Woodstock, New York; and Victor Schrekengost, industrial designer and part-time faculty member of the Cleveland School of Art.

STEUBEN GLASS

By Lydia Gifford

Happily, progress in art is not measured in miles or revolutions per minute. In an era of noisy industry and jet-propelled business, American industrial reputation has been built on the ability to make just about anything and make it fast. But in a race for quantity, with its endless roll of products hot off assembly lines, fine-art crafts in this country seem conspicuous in their quiet modesty.

In a small corner of the modern industrial Corning Glass Works, Steuben Glass is making hand-blown crystal glass according to methods as medieval as those of the ancient guilds. While American culture has deferred much to European tradition in the arts and seemed, in defense, to concentrate on industry, both have flourished in this country. Art and Industry are not separate legacies of a nation, and in neither does the United States have to apologize to the Old World.

The best intentioned craft, no matter how well plied, is not, per se, an art. Although the makers of Steuben Glass have put their master seal on the early skill of hand glass-making, they are dedicated to a purpose beyond the fostering of an age-old craft. They are exploiting glass as a vehicle for contemporary artistic expression. Steuben's method of making glass deviates imperceptibly from classic prescription, following a formula as set forth by the Benedictine, Theophilus, in the Twelfth Century.

A visual check of operations in today's "shop" of glass blowers gathered around a glowing furnace with those depicted in old lithographs of glass factories would yield little variation. The outstanding contribution of Steuben Glass, however, to the development of glass-making is revealed in an examination of the crystal glass itself. Steuben crystal, a highly scientific achievement, is the result of the modern research only at Steuben's disposal. Its factory has formulated a "metal" virtually free of flaws, the clearest crystal in the world. The material, not the decoration, has been the dynamic controlling force in the evolution of Steuben Glass.

A work of art has been described as a form which has found a fit material. The motive for Steuben has been to lure the immaculate crystal into forms which will reveal essential crystal quality. Believing they had discovered a medium containing attributes not inherent in any other art form, the makers of Steuben sought artistic sanction for their product. They invited leading contemporary artists the world over to submit decorative designs for the new crystal. There is no way to measure the individual contribution in the development of Steuben Glass; however, it has found a permanent place among treasured art objects in museums and private collections both here and abroad. One representative Steuben piece is the only American glass owned by the Victoria and Albert Museum in London.

ENGRAVER WORKING ON A STEUBEN GLASS BOWL

Steuben Glass has assembled its outstanding designs

DESIGN BY HENRI MATISSE

in crystal at the Carnegie Institute. In a comprehensive display of hand-blown glass, the designs of leading contemporary artists are shown. Among those represented are Jean Cocteau, Henri Matisse, Pavel Tchelitchew, Aristide Maillol, Paul Manship, Salvador Dali, Georgia O'Keeffe, Isamu Noguchi, Marie Laurencin, and Gwen Lux. In an absence of color or high relief, the experiment proved a delightful one. Artists, well known in paint or bronze, discovered an unfamiliar dimension of motion in transparent forms. Static patterns could be liberated in crystal, and designs could change infinitely as the object was turned. It proved to be an exciting experiment with unlimited possibilities of design proper only to glass.

Although the choice of artists has been wide, out of diversity there emerges an underlying unity. The brilliant crystal itself is the common denominator and focus for varied artistic expression. Proceeding with the same basic material, each artist has expressed the personal and unique quality that has placed him in the forefront of modern art. Fifteen original drawings are exhibited along with the finished pieces, and it is interesting to compare the two mediums. Motion and perspective, implied in the drawings, are definitely achieved in crystal through sheer transparency and the interplay of light through crystal forms.

The magic charm and delicate appeal of the Marie Laurencin design is fragilely suspended as if in mid-air, seeming at no point to touch the ground. In a dream world of youth and eternal grace, Laurencin moves freely, and this ethereal quality is transfixed in the shimmering crystal. The O'Keeffe flower, in the absence of color, has an unreal moonlit aspect. Yet, with this, the tactile illusion of petal texture and reality of form afford exciting contradictions. It is as if the deep clarity of the uncolored crystal distills a mystical essence from the designed object, presenting that reality of flower or human form which lies beneath the surface. Thus the designs of Gwen Lux have sought their proper medium. The Madonna Vase expresses best the subtly simplified style of abstraction so characteristic of Miss Lux. The spirit in this piece, intangible as changing light, is freedom of movement freely interpreted.

THE DESIGN ENGRAVED ON A STEUBEN VASE

The deep, quick cut of the engraver's wheel has captured in its essence the moving line of Isamu Noguchi's Cat. The crystal reveals, without embellishing, Noguchi's simplified but complete statement. Glass, however, is not earmarked merely for the delineation of studied abstraction. The outlines of architectural mass and structure can be well established without being lost in reflection. In the Pavel Tchelitchew bowl, solid linear perspective is permitted to travel deep into a vanishing horizon. At no point is there confinement to surface illusion of a two-dimensional art. In such representative instances, form has truly found a fit material.

The signatures of the engravers should appear, with those of the artists, in acknowledgment of the complicated and highly sensitive art of the engraver. This process is not alone a matter of manipulation and manual dexterity. It involves inherent taste and judgment in the interpretation of form and design. The engraving, done by the copper-wheel method, is distinguished by the precision and firmness of its forms and edges, and by the fluidity of its curves. The wheel produces a shallow intaglio which, paradoxically, appears in relief. The deepest depressions give the optical illusion of the shallowest cutting. The engraver must exercise unerring judgment in transmitting the designer's rendering from paper to glass. Such transcription combines complete technical facility with a high order of taste. Successful copper-wheel engraving is exquisite in its perfection. In the making of Steuben crystal, artist and artisan have worked in exceptional collaboration. Such reciprocal endeavor has seldom been equalled.

DRAWING BY SIDNEY WAUGH

ONE OF "THE SEVEN DEADLY SINS" GOBLETS

Steuben Glass is exhibited at the Carnegie Institute in an unusual way. The display units, designed by John Monteith Gates, vice-president of Steuben Glass, are constructed in general to underline the natural quality of the pure crystal, and in particular to emphasize the individual stature of each piece. In a darkened gallery, the sparkling crystal is arranged on three islands in the center of the room.

These sections, built in tiers, are covered with deep blue felt. The only lighting in the room, other than on the wall on which the drawings are hung, emanates from beneath the glass-topped tiers upon which the glass is displayed. General illumination for the whole gallery is supplied thus by light reflected from overhead white canopies. The effect is quietly beautiful, and the crystal, undisturbed by reflections, shines forth in a world of its own.

The exhibition is installed at Carnegie Institute in Gallery E, second floor, and will continue through February 13.

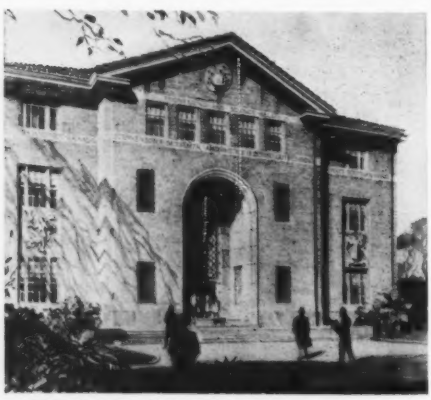
LYDIA GIFFORD

Lydia Gifford, who is librarian in charge of research at the Steuben Glass Company, graduated from Bryn Mawr College in 1945. She worked for two and a half years in the public affairs department of the American Broadcasting Company before joining Steuben last spring. The Company's library is said to contain the finest collection of books on glass in this country.

CARNEGIE TECH PLANS TO BUILD

A MILLION-DOLLAR brick wing added to Engineering Hall, a million-dollar extension of the power production and distribution facilities, and extensive remodeling of existing buildings involving expenditure of an additional two million dollars have been scheduled to begin this spring by President Robert E. Doherty and the executive committee of Carnegie Institute of Technology.

Student enrollment, even after the wave of GIs has passed, will be nearly 25 per cent higher than the registration for which the original plant, completed in 1900, was intended, and no buildings have since been added. Two other factors, states Dr. Doherty, make this building program an immediate necessity: the new Carnegie Plan developed the past decade which has required a heavy increase in the number of teachers needed for each hundred students; and the expanded service rendered by Carnegie Tech to industry and to the government in scientific and engineering research.



THE NEW ENGINEERING WING FOR TECH

Funds for the program will be drawn from capital which up to now has been providing sorely needed endowment income. The decision to build had been reached in March 1947, but plans were held in abeyance because of high building costs. According to Dr. Doherty, a start is now being made because "we are advised that a significant drop in building costs cannot be expected in the near future. . . . We have been intolerably crowded, and it has been absolutely necessary to provide additional space by beginning construction according to these revised plans, even if we had to use part of our endowment to do so."

Two wings were originally planned for Engineering Hall. With only one now to be added, the civil engineering department and the coal research laboratory will be moved from their present positions in the Hall.

In the renovation of present buildings, new stories will be inserted, space redesigned between upper floors and roofs for laboratory, office, and classroom use, and various areas reallocated. It is hoped the entire program will be completed in two years.

This four-million-dollar project, according to President Doherty, is part of the Carnegie long-range physical-development plan calling for such major campus additions as a new library, auditorium, and gymnasium.

WISHFUL THINKING

By Richard I. Felver

RICHARD I. FELVER

It is easy to demonstrate with specious logic that the form of man-made objects is derived from function, and that function comes directly from need. There is even an esthetic principle based upon this idea: it is expressed in such clichés as, "Necessity is the mother of invention," and "Form follows function."

Yet the taste of the consumer, in choosing by purchasing what he prefers, has rarely coincided with this pure functional esthetics. To the student of design this has been a disturbing factor.

The reason for the apparent bad taste of the average consumer may be that he hungers for more than material satisfaction. Therefore, no matter how well material values are expressed, he fails to appreciate their artfulness: he is looking beyond, for other qualities.

Then if in picking a coffee-maker he sometimes decides not upon how well it makes coffee, or his preference in knives lies not always in how well one cuts, what are his reasons? What lies beyond that?

Man is not content just to live. It is beyond this that his reasons lie. He wishes to know that he will continue to live; that his living is worth while; that others know he is living; and that the fact of his living is appropriate and appreciated. These wishes are difficult to fulfill; it is even difficult to know if they are fulfilled. Therefore he desires to possess and have all about him signs that he is fulfilling his wishes.

If a gold cigarette lighter indicates that its possessor is affluent and important, and if that is what he wishes to be, then it is of secondary interest that it may be more difficult to light than a match. If a Tuxedo indicates that its wearer belongs to the right set, it is unimportant that it is uncomfortable.

He even desires symbols that indicate things that do not exist. The Doric column has survived for the thousands of years since the Greeks; therefore, by extrapolation, it will continue sturdy and immutable; hence, the Doric facade of the bank means security.

The designer, in determining the form of a product most acceptable to his fellow man, will find that the purchaser's decision whether to pick the product or not is based upon whether the product contributes to fulfillment of what he wishes for from his environment, as well as what he needs from his environment. This is a rather subtle point and easily passed over.

Man and mankind need from environment those things necessary for the survival of the individual and of the race. Yet man is less particular about the form of the necessary than he is about the form of the less necessary. The urgency of existence explains why a square loaf of bread is as good as a round one, but it does not explain the concern over the color of the icing or symmetry of a cake. Man's concern here is explained by the fact that he wishes as

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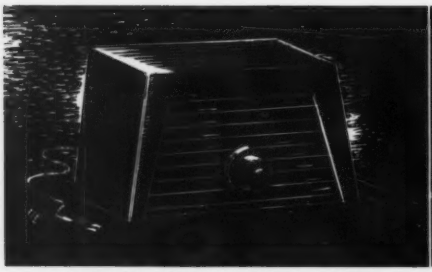
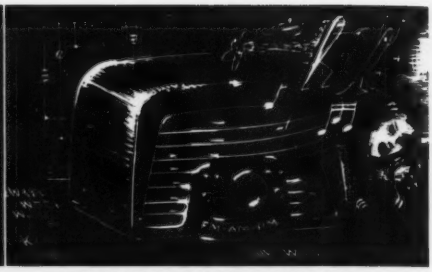
Richard I. Felver is an engineer who teaches in the department of painting and design at Carnegie Tech. In his own words, "Thirty pounds ago I was a gymnast, but now in off-teaching time I perform acrobatics with inventions and factories, and things of that sort. I have one son four and a half years old, who is a better artist than I am, and another six months old, who is a bigger stuffed shirt."

Mr. Felver graduated in industrial engineering from the University of Akron in 1935, then worked for Firestone Tire and Rubber Company for three years as an industrial engineer, studying sociology at night school. The following two years he studied painting and design at Carnegie Tech, then for four years was in charge of the industrial design section at the Westinghouse Electric Corporation in Mansfield, Ohio. Since joining the Tech faculty as associate professor of industrial design five years ago, he has acted as advisory engineer for the miscellaneous engineering department of Westinghouse at East Pittsburgh, and been designer and consultant for a number of other firms: B. F. Goodrich, General Mills, McKee Glass, Dravo, Shenango Pottery, and Standard Gas Equipment.



SIMPLE . . . SOLID . . . SAFE . . . SURE



SUPERTHYRODYNAHETROSCOPIC

well as needs, and when he is less bothered with necessity he is freer to wish. Peculiarly all his wishes are only variations of four basic ideas: these are the wish for security, for new experiences, for recognition, and for response.

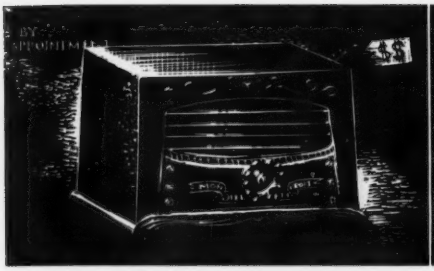
Man wishes for security. He wishes for assurance that conditions will not become worse; that nature and society will continue to behave in an orderly manner; that chaos will not erupt to destroy his plans. But he cannot really have such assurance short of a face-to-face conversation with the Almighty. Nevertheless that is his wish, and he demands that those objects with which he surrounds himself contribute to that fulfillment. Especially he demands that nothing subtract from whatever feeling of security he may have. For instance, the appearance of an automatic toaster or automatic clothes-washer is very simple in comparison to what takes place inside. If one were to see the thermostats, timers, electric circuits and mechanism, or if their complexity were expressed upon the outside, it would be frightening or at least disconcerting. It would take considerable faith in God or the engineering department to dispel the little doubts. Hence the easy exterior allows a feeling of security: "Don't worry, it's easy." This appearance, incidentally, I would say, is not so much the result of logical derivation as an evolution caused by the choosing of the public as to what shall survive, and the designers' intuitive efforts to create a form out of chaos.

Second, man wishes for new experiences —adventure, growth, excitement, to be "really living." Yet how much variety is enough; wherein does confusion begin, bringing insecurity? How can one travel and save money; hunt tigers and live safely? He gets around this by smoking a manly pipe, pounding it on an ash tray decorated with a hunting dog. The motif of the game room is a ship with an inlaid anchor in the linoleum floor and a lamp made of the wheel. The convertible auto allows him to penetrate nature and live dangerously. He speeds, casually risking nature's penetration of him. He buys trick can openers, electric pencil sharpeners, recording barometers. He puts nickels in slot machines to hear noise, light lights, feel the robot serve.

Third, man wishes for recognition—some proof of his individuality accepted, his worth established. He understands the coat of arms molded in the plastic center of the horn button of the expensive limousine as a sign of position in the higher stratum. He likes the derivative Romanesque decoration on his floor-lamp base because it is "culture" and he is thus a part of the great tradition; or perhaps his lamp is one "suave" tube—"The material itself is decoration"—for this, too, is culture, and he is one of the avant-garde itself.

Fourth, he wishes for response—a sympathetic awareness or reaction from his environment, an approval of his belonging. He finds a fulfillment of this wish in the feel of a tool handle that is comfortable—it was intended for him. A chair in which he can relax completely, even take off his shoes if he so desires, expresses to him his right to be as he really is.

The human mind has devious passageways and dark corners, and man twists these basic wishes, evading, experiencing vicariously, concealing from himself what he really means. His wishes take an infinite variety of forms, but they are really the simple wishes with new masks and mannerisms. This adds to the complexity



THE SAME AS THE DUKE'S OWN

...AND MAKES A HOUSE A HOME

and difficulty in analysis, for one design element or decorative motif may tend to give a meaning of one wish fulfillment to one person and mean something different or even nothing to another.

There is a peculiar lack of nicety in this logic, but man is not fooled by wishing. He may be deceived, though, in satisfaction.

These wishes rightly fulfilled are the highest aims of civilization, and man is not to be ridiculed for his wishes. The wish for security is, in its highest expression, the wish for freedom and peace; and the wish for new experience is, in its highest expression, the wish for richness and breadth of living. Likewise the highest expression of the desire for recognition and for response is the wish for dignity of the individual and for brotherly love.

Man will accept objects as either sublimated fulfillment or substitute for what he wishes, or as an expression of his mature adequacy in a spiritual and emotional wealth within himself.

As an artist, the designer of useful objects chronicles the progress of man toward mature satisfaction; as a creator, he does what he can to help man along by presenting objects that either are appropriate to man's wishful nature or that allow man to realize the fruition of his wishes within himself. This is a difficult design project. It requires sympathy, respect, patience, great breadth of understanding, and tremendous skill and imagination. It is to be achieved by reducing confusion, fear, and the other negatives of security; by presenting the opportunities for full living; by nurturing and maintaining self-respect; and by developing understanding and appreciation.

This is a goal to the designer that is greater than design. It is a goal to all men, broader than their narrowness of specialization.

Among Our Friends

A GRANT of $35,000 from the Buhl Foundation of Pittsburgh recently has completed the library fund of $110,000 at Carnegie Institute of Technology. Approximately $75,000 will be spent for engineering and science publications, $25,000 for published material on fine arts, and the remaining $10,000 for Margaret Morrison Carnegie College. Among other grants to this fund has been one from the Wherrett Memorial Fund of The Pittsburgh Foundation.

Dr. George H. Clapp again has presented $1,000 for general purposes of Carnegie Museum.

Income from the estate of Anna R. D. Gillespie, amounting to $916, has been turned over to Carnegie Institute to be divided equally between Fine Arts and the Museum.

It has long been a matter of regret that the galleries where the young Palettes and Tam O'Shanters paint with such enthusiasm and talent have been poorly lighted. Now, however, a friend of the Institute who wishes to remain anonymous has most thoughtfully given $300 and with this sum very powerful spotlights have been installed in strategic sections of the skylight so that the Saturday art classes fairly dazzle.

From James C. Rea has come $150 to be applied to the Mammal Survey of this state undertaken jointly by the Institute and the Commonwealth of Pennsylvania.

THE POPULAR PRIZE

And lo, Stanley Crane's name led all the rest! This paraphrase of a famous line of poetry tells the story in a few words and certifies that when the votes were counted for the Popular Prize Award of $200 in the exhibition, Painting in the United States, 1948, *The Church in Willow* by Stanley William Crane of Woodstock, New York, won by a big margin.

Grisaille by Priscilla W. Roberts was the runner-up, and *Wheat Shocks* by John Rogers Cox was third. The next ten in order of the number of votes received were: *Winter Solitude* by Carl Wuermer; *Portrait of Miss Peggy Cummins* by Peter Hurd; *Canal in Winter* by Edward W. Redfield; *Christina Olsen* By Andrew Wyeth; *Soldier's Grave* by Harry Leith-Ross; *Lake Chapalla Fishermen* by Dean Fausett; *Pat Lytel, Tumbler* by Sidney E. Dickinson; *Portrait of an Artist* by Xavier Gonzalez; *Future Imperfect* by Abe Weiner; and *Medieval Shadows* by Raphael Gleitsmann.

GRISAILLE BY PRISCILLA W. ROBERTS
Runner-up in the popular voting

With the painting, *The Church in Willow*, (reproduced on the cover) Stanley Crane made his fourth appearance in a Carnegie Institute Founder's Day exhibition. His first representation was in Directions in American Painting in 1941, and he was invited for Painting in the United States 1946, 1947, and 1948. The artist was born in La Porte, Indiana, in 1905. He never attended an art school. Crane's sole training consisted of thirty-four years of teaching himself. The fundamentals of painting he learned from his father, who has been an amateur artist all his days and who was encouraged to paint by his mother, also an amateur painter. She, too, had a part in the early training of her grandson. Stanley Crane studied on his own for three years in France and Italy. After a year in a small village, L'Eaude, nine miles north of Nice, he met and married the youngest daughter of a French army colonel. Fourteen years ago the Cranes settled in Woodstock and began to build a house in the Bearsville district after their own design with stone from the two quarries on their acreage. Stanley Crane has exhibited in all the important national shows. He was awarded a prize in the Hoosier Salon of 1928; at the Albany Institute of History and Art in 1940; at the Museum of Modern Art in 1942; and he received the Saltus Medal at the 119th Annual of the National Academy of Design in 1945.

The painting which won the popular acclaim of Pittsburgh is a landscape of the village of Willow in Ulster County, New York, near Woodstock. In the foreground is a small country church with its spire, and to the side of this frame structure is the buggy shelter. In the distance are a few scattered houses and rolling, wooded hills. The whole scene is enveloped in sunlight. The painting was completed in the summer of 1947. When the artist's friend, Mario Vitetta, composer and violinist with Toscanini's National Broadcasting Company Symphony Orchestra, saw the picture, he decided to add a fifth part to the string quartet, *Catskill Landscapes*, that he was working on at the time. It is said that the composer did a remarkable job of translating the mood of the painting into

music. It was played for the first time by the Woodstock String Quartet on July 10, 1947.

When the director of fine arts, Homer Saint-Gaudens, informed Stanley Crane that he was tops for his Pittsburgh audience, the artist wrote:

"To say that I am pleased by the honor is an understatement. This award fortifies a conviction I've held since I started to paint as a boy, that the public—the American public, all the hundred or so million of them—should have something to say about what the artist paints. Not how he paints, but what he paints, what he communicates. Art is not a private affair of the artist, it's a public institution, a milestone and a heritage of the human race. Believing the above as I do, you can easily see how proud I am to be singled out for this special award given by popular vote of the public. It is a comfort to know that I have correctly felt and interpreted a common emotion for my compatriots and that I have been understood. It is encouraging to know that a painting with a church for its subject interested so many people. It is my guess that subconsciously and in a vague sort of way more and more people have a conviction that the only way out of the mess the world is in will be found, not in science or material things, but in a stronger faith in God."

One might assume from the painting, *The Church in Willow*, that the artist is a very serious person. He may be, but he also has a grand sense of humor, for when he acknowledged the check for the award he said in an aside, "Yes, there is a Santa Claus after all. Now I'll be a good boy until next Christmas."

The runner-up, Priscilla Roberts, is a popular favorite in cities other than Pittsburgh. She won the George A. Zabriskie Popular Prize of $100 for *Still Life* in the 33d Annual of the Allied Artists of America in 1946, and the Popular Prize in the 20th Biennial Exhibition, Corcoran Gallery of Art, Washington, D.C., in 1947. She was also awarded the Julius Hallgarten Prize at the National Academy in 1945 and the Thomas R. Proctor Prize in the 121st Annual Exhibition of the National Academy in 1947. She was born in Glen Ridge, New Jersey, and has lived in New York City practically ever since. She studied at the Art Students League and the National Academy of Design Art School.

John Rogers Cox, who received the third highest number of votes, won the Popular Prize at Carnegie Institute in 1944 and 1946. The Cox painting, *Wheat Shocks*, was sold out of the exhibition and is to go into a Pittsburgh collection.

It is of interest to note that four of the winners of the awards made by this year's jury were in the race for the Popular Prize —Raphael Gleitsmann, Andrew Wyeth, Sidney Dickinson, and Xavier Gonzalez.

Each one of the three hundred canvases in the exhibition, Painting in the United States, 1948, was eligible for the Popular Prize. The award was determined by the vote of visitors to the art galleries from November 21 through December 5. Each visitor during that period was given a ballot and was asked to designate, according to his own taste and standard of criticism, the picture he considered best in the exhibition. The Popular Prize has had a long history at Carnegie Institute. It has been offered in each Founder's Day exhibition since the 1924 International.

—J. O'C., Jr.

A FEW FIGURES

Nine paintings were sold from the annual exhibit, Painting in the United States, 1948, most of these to remain in Pittsburgh. The paintings purchased were:

Family Portrait, 1948 by Carol Blanchard
The Rabbi by Hyman Bloom
Arrangement No. 9 with Figure by Robert Brackman
Wheat Shocks by John Rogers Cox
Old Apple Tree by Doris Lee
Nonconformists by William Charles Libby
A Grave Situation by Matta
Pietà by Abraham Rattner
Chimes by Paul Riba

Twenty-one prints were sold from the Exhibition of Current American Prints that ran eleven weeks at the Institute.

Painting in the United States, 1948, on display from October 14 through December 12, drew an attendance of 59,841 persons; of these, 1,730 came in 71 groups which were conducted by guides provided by the Department of Fine Arts; 1,979 of the younger visitors from 16 high schools heard an illustrated talk on the exhibition by Mary Adeline McKibbin, senior supervisor of art in the city public schools.

"L'HYMNE INTÉRIEURE" BY BOURDELLE

A second bronze given by Mrs. Lambert Oppenheim

ANOTHER bronze by Émile Antoine Bourdelle (1861-1929), French sculptor, has been added to the permanent collection of bronzes in Carnegie Institute. The figure, *L'Hymne Intérieure*, is the gift of Mrs. Lambert Oppenheim of Cleveland, formerly Mrs. Albert C. Lehman of Pittsburgh. She presented the first bronze, *Herakles—Archer*, in 1947. It was described in CARNEGIE MAGAZINE for April 1948. The gift of these two bronzes is an indication of Mrs. Oppenheim's continued interest in Carnegie Institute which began when the late Albert C. Lehman announced the famous Prize and Purchase Fund for the 1929 International.

For the edification and guidance of other potential donors, it might be appropriate to record that the two bronzes by Bourdelle are not the only gifts made by Mrs. Oppenheim to Carnegie Institute. In 1938 she presented the large canvas *The Studio* by Felice Carena, in 1941 *Interior* by Alexander Brook, and in 1942 *Still Life with Violin* by Georges Dufrénoy and *Fiesta in Mallorca* by Joan Junyer. These paintings were given in memory of Albert C. Lehman, industrialist, trustee of Carnegie Institute, collector of works of art, and, as has been said, the donor of the Lehman Prize and Purchase Fund in the Internationals.

ÉMILE ANTOINE BOURDELLE
(1861-1929)

The bronze *L'Hymne Intérieure* is twenty-nine inches in height, thirteen inches in width, and fifteen inches in depth. It is entitled on the back *L'Hymne Intérieure* and signed "Émile Antoine Bourdelle." On the right side of the bronze in script are the words: "1ère épreuve à Mer. Albert Lehman." The piece is not dated, but it has been established through Madame Bourdelle that it was done in 1908 or 1909, about the same time as *Herakles*. It was shown in the Sixteenth Venetian Biennial in 1928, where it was listed as *Inno Interno*.

L'Hymne Intérieure is a slight modification of the figure entitled *The Maiden's Prayer*, illustrated on page 105 of *Apollo*, volume XI, number 62, February 1930, referred to in the accompanying article as *Virgin in Prayer*, and illustrated in *Creative Art*, volume XII, number 3, March 1933, page 209, as *Femme en Prière*. In the Exhibition of Sculpture by Antoine Bourdelle at Carnegie Institute, December 15, 1925 through January 22, 1926, this first version was catalogued as *Woman at Prayer*. The title *L'Hymne Intérieure* is being retained because it is the one inscribed on the sculpture, and at the special request of Madame Bourdelle. It is difficult to translate the French title into one descriptive of the statue. There are reasons that, if any other title should be given for this version, it should be *The Magnificat*. No doubt the sculptor had in mind, when modeling the figure, the Blessed Virgin Mary as she intoned the great hymn given in Saint Luke, chapter 1, verses 46-55. The pertinent verses are: "My soul doth magnify the Lord, and my spirit hath rejoiced in God my Saviour because he hath regarded

the humility of his handmaid: for, behold, from henceforth all generations shall call me blessed." Truly, this is the greatest of *les hymnes intérieures*.

In the bronze the sculptor has not departed from the mass-structure of his design. He has modeled a compact, seated figure. The woman rests on what appears to be massive stones. Her head, which is covered with a wimple or burnoose, is inclined to the right in reverence. The hands are clasped upward, close to the body. The standing figure of this subject is a favorite one with Bourdelle. It is similar to the *Madonna and Child* carved in marble, to *Saint Barbara* (1915-16), to *La Vierge à L'Enfant* (1920-22), and to *La Vierge d'Alsace* (in stone, 1922), sometimes entitled *La Vierge à Offrande*, perhaps his greatest work. A like figure was used in the relief of *Return of the Soldier* (1924). Probably the first idea or germ of *L'Hymne Intérieure* was in *Joan of Arc in Prayer* (1898), but the latter does not have the simplicity, the monumental character, or the loveliness of *L'Hymne Intérieure*. In this bronze, as in so many of his works, Bourdelle's style imparts a size the piece does not actually possess. It is Gothic in subject and treatment and would best lend itself to be carved in stone. The figure recalls that, while Bourdelle reverted at times to classical mythology for his themes, he was rightfully termed "the high priest of neo-Gothic."

L'HYMNE INTÉRIEURE
Bronze by Bourdelle (29 inches high)

Bourdelle, sculptor, painter, decorator, draftsman, composer, critic, poet, teacher of a hundred pupils, the patron of many young sculptors, was an exponent of the grand manner. At the time of his death in 1929 he held first place among French sculptors, succeeding to the position of Rodin, whose pupil and friend and studio assistant and collaborator he had been. He was born in 1861 at Montauban in southern France. As a youth he helped his father, a cabinetmaker and a master woodcutter. He studied drawing with a pupil of the great Ingres before he went to Toulouse to take up sculpturing and painting. While there he won a scholarship which sent him on to Paris, where he studied under Falguière. When he was twenty-five he entered the studio of Rodin and was his pupil, associate, and close friend for ten years, leaving about 1900 to open his own studio. His story from then on is told in the many public monuments he made throughout the world as well as his statues and busts of the important men of Europe of his day. He was proud to be known as the "Master of La Grande Chaumière," his home and studio in the Impasse du Maine, Paris. He was a great sculptor, a great master, and a great teacher, who carried on in the tradition of the famous artists of the Renaissance.

—J. O'C., Jr.

FOR DETROIT

The painting, *Marine Still Life*, by Zoltan Sepeshy, which was awarded First Prize of $1,500 in Painting in the United States, 1947, was purchased out of the exhibition by Dr. and Mrs. George Kamperman of Detroit.

Word has been received that Dr. and Mrs. Kamperman have recently presented the painting to the Detroit Institute of Arts for the permanent collection.

THE LIBRARIES IN OUR CITY SCHOOLS

By Agnes Krarup

MISS KRARUP (SEATED) AT WORK WITH HER ASSISTANTS

Many citizens of Pittsburgh who have graduated from the public schools may perhaps assume that school libraries everywhere from the elementary grades through the high schools are as much to be taken for granted in our country as the very fact that we have free education. Their conclusions are drawn from their own happy experience. Probably few of them are aware of how far in the vanguard Pittsburgh has always been in this respect, or of the extent to which the Carnegie Library of Pittsburgh has co-operated with the schools so that children will come constantly into contact with beautiful and informative printed materials. What their advantages have been can best be understood when we look at the rest of the country where one-fourth of our people have no libraries whatever, either school or public, and another one-fourth have only what are considered entirely inadequate facilities.

Among librarians nationally the pattern of co-operation worked out in Pittsburgh has always been of interest because the actual work involved in the plan is carried on within Library walls. It is a pattern that will be found in only two other large cities, Cleveland, Ohio, and Portland, Oregon, both of which also can boast of a public library of unquestioned stature.

The occasional visitor who finds his way to the basement rooms in the Carnegie Library of Pittsburgh that house the busy schools department is apt to exclaim, "I never knew this department was down here, and I've used this library all my life." It always amazes him to learn that the volume of the work requires the full time of eight persons in addition to the head of the department. But this has been going on for years by a contract for service with the Board of Public Education. The terms of the agreement state that the Library shall be responsible for technical policy and methods, the schools for instructional use made of the materials, and both agencies for the expense of the service. Each, therefore, provides a budget for books: Board funds supply the reference and supplementary materials, and the Library, books of a more recreational nature.

The co-operative plan was undertaken in the interests of economy and efficiency. There is centralization of the highly technical processes of cataloguing; books are repaired in the Library bindery; and the schools department handles all deliveries to and from the schools. Furthermore, through regular meetings of the high-school librarians for the examination and discussion of new books and the subsequent

placing of orders, hours of time are saved. No book is purchased from either fund until it has been read and approved by a librarian or by an expert in that field of the curriculum which it covers. With so large a number of people evaluating and reviewing, the burden on anyone is not too heavy. Each month a list of *Books Approved and Not Approved for High Schools* is mimeographed as a buying list and distributed to each person taking part. In addition, forty-eight librarians from independent districts in the Pittsburgh area pay a small subscription fee each year to receive the ten issues, and thus benefit to some extent from the critical appraisals of our group.

All this could be set up quite apart from the public library, and usually is in large cities. This brings us to what is undoubtedly the most valuable feature of the plan from the point of view of the schools. Because of the arrangement, the resources of the entire library are available to them for special needs, subject only to the limitation that any books requested be for student use. Thus the potential service of each school library is greatly extended. Librarians in twenty-three high schools and seventy-nine elementary schools can testify as to what weekly deliveries of materials to their door have meant in increasing the effectiveness of their work.

Is a play about Abraham Lincoln needed for that auditorium program in February? Esther Plittman, librarian in charge of service to the elementary schools, spends her entire day looking up materials to satisfy just such demands. The same school asks for something about the Roosevelt administration, colonization, and bird sanctuaries. Another wants books about dinosaurs, rocks, caves, shells, contour plowing, and erosion. It is all in the day's work to select approximately twenty to thirty books on those subjects. Frequently a question requiring a search appears in the mail: bugle calls set to music are needed; when did Milk Street in Boston get its name? who are some famous deaf or hard-of-hearing people?

While Miss Plittman goes all over the Library filling these needs, James Barry is similarly engaged in looking up items needed in junior and senior high schools. These are likely also to be tied in with the curriculum. Such things as biographical information about authors or about the signers of the Declaration of Independence

Pittsburgh Board of Public Education

A PITTSBURGH ELEMENTARY-SCHOOL LIBRARY

are typical. The life and customs of one period of history may be called for, either for social studies or English. A science class is studying the stars or the weather. Facts about vocations must be sent out to school after school. A favorite demand is for fiction about a given era: the colonial years offer a recent example. Mr. Barry occasionally gets a question that has its humorous aspects, or would have if finding the answer were not so grim a proposition. "Have you the rules for baby sitting written in simple language for a slow reader?" Sometimes any spare minutes for days will go into trying to locate some badly needed and hard-to-come-by fact. Mr. Barry is at this writing conducting a so-far-unsuccessful search for a good picture of Admiral Perry's official seal. The question reveals the school that wants the answer.

One time-consuming task in this visual-minded day and age is the selection of appropriate illustrative aids. If the request is for fifteen pictures about China, fall trees, farm machinery, horses, or Christmas scenes, one of the clerical assistants is dispatched to the Boys and Girls Room to go through the files there. The Library's art division will choose pictures at the adult level for high-school use. Sometimes, however, this work also has reference aspects, in which case the professional assistant handles it. A recent call for pictures of costume and custom in the Gay Nineties was peculiarly hard to satisfy because saloons were so frequently a prominent feature in the composition. Something more idyllic and charming was wanted.

As this flood of material passes daily through the schools department, records must be made for each piece so that the school librarian will know at all times what she has borrowed. Two typists are assigned to this work, while a boy wraps the packages to be sent on the delivery. Everything is done on a large scale here. Books are purchased by the thirties or forties, distributed widely, rebound in quantities, and redistributed. Not long ago, members of a committee of teachers looked on in astonishment, not unmixed with envy, as several truckloads of new books were wheeled through the department. But those books will melt like snow before rain when seventy-nine teacher-librarians select the titles they want.

To direct all this activity is a stimulating and exciting job, particularly so, as the person in charge is officially the supervisor of school library services at the Board of Education. Aware at all times of what is going on in the school libraries, she is in a position to see the picture in the round. She occupies a highly strategic place from which to interpret one agency to the other. Like Janus, she faces two ways. For over thirty years the persons who acted in this capacity were engaged and paid by the Library, but there were always certain disadvantages to them and to their work in not belonging officially to the Board family. These were corrected when the position fell vacant in 1947, and the new supervisor became a school appointee. That both the Library and the Schools could in turn accept in an administrative capacity someone who is not technically on the staff demonstrates how complete is the trust and how cordial the relations between them.

Agnes Krarup came to Pittsburgh in the fall of '47 and previously for nine years had been head of the school department in the Library Association of Portland, Oregon. The summer of 1936 she worked in the serials department of the University of Iowa. For a number of years she had taught junior-high-school English in Nebraska and Iowa. A graduate of Grinnell College, Miss Krarup took her bachelor's degree in library science at the College of Librarianship, University of Denver, in 1936, and her master's degree from the School of Library Service at Columbia six years ago. She has written a number of articles for the *Library Journal*, the *Wilson Bulletin*, and the *Oregon Educational Journal*.

LOANS TO GALLERIES

From the permanent art collection of Carnegie Institute several loans have been recently made: the bronze relief of Robert Louis Stevenson by Augustus Saint-Gaudens was borrowed by the Columbus Gallery of Fine Arts for an exhibit of Nineteenth Century Art closing November 28; *Trophy of the Hunt* by William H. Hartnett went to the Dallas Museum of Fine Arts for an exhibition at the Texas State Fair lasting to November 7; Raphael Soyer's *Pensive Girl* was lent to the Colorado Springs Fine Arts Center for New Accessions—USA, in the fall.

THE SCIENCES IN PITTSBURGH

IV. STEEL METALLURGY

By M. A. Grossmann

Continuing a series of articles on Pittsburgh's contribution to the sciences

M. A. GROSSMANN

Metallurgically speaking, at least with respect to steel, Pittsburgh is the traditionally dominant city in the United States. Any lecturer on steel metallurgy will tell you that the audiences here provide most discriminating and discerning discussion. The reason would not be hard to find. Pittsburgh has made more steel than any other district in the world, due in part to the energy and foresight of its pioneers, in part to the circumstance that coal deposits are near by and the rich Lake Superior ores can be brought to Pittsburgh by cheap water and rail transportation, in part to the growth of the railroad systems with their tremendous demand for steel in the very period when the Pittsburgh steel industry was ready for growth, and in part to the contributions which Pittsburgh's steel artisans and scientists have themselves made. One of the great pioneers was Andrew Carnegie, whose name is borne by many Pittsburgh institutions including this Magazine.

DEVELOPMENT OF THE INDUSTRY

Iron ore was first discovered in western Pennsylvania in 1780, toward the end of the Revolutionary War, when a tract of land was described as "being on the Yohogania River and to include a bank of iron." The first blast furnace west of the Allegheny Mountains was built in 1790 on Jacob's Creek in Fayette County. The first blast furnace in the City of Pittsburgh itself was built in 1792 on Two Mile Run, now Shadyside. The iron from this furnace was used largely for the casting of stoves and grates, this stove industry being indeed one for which Pennsylvania was to become famous because of the widespread use of the Franklin stove, invented by Benjamin Franklin.

These early blast furnaces were characterized by two features that were to change: (1) the fuel was charcoal, eventually to be replaced by coke: and (2) the blast was cold, eventually to be heated. Coke iron was first made in 1819, at the Bear Furnace in Armstrong County. In 1840 smelting with coal came in, and in 1855 for the first time production of iron using anthracite coal exceeded that of charcoal iron. In the meantime, the manufacture of Connellsville coke had begun in 1841, and coke was being used widely by 1850. With the use of the hot blast, iron production moved toward the Pittsburgh coking-coal fields and Pittsburgh became the great iron center. In the meantime, the Lake Superior iron ore, discovered in 1844, was first used in Mercer County in 1853, and eventually dominated steel production in Pittsburgh. In 1872 the new enlarged Lucy and Isabella furnaces in Pittsburgh revolutionized blast furnace practice, and in 1880 the Isabella furnace was the first to exceed 100 tons a day regularly, reaching 200 tons a day in 1881. Furnaces are now built and operated to produce well over 1,200 tons a day.

The product of blast furnaces such as the above is cast iron (pig iron), the hard and brittle form of iron that contains several per cent of carbon and silicon. Today this is refined to tough steel largely in the open-

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Marcus A. Grossman has been director of research at the Carnegie-Illinois Steel Corporation since 1936, having become associated with the Illinois Steel Company and the Carnegie-Illinois Steel Corporation five years previously. Before that time he had been connected with the Republic Steel Corporation, Atlas Steel Corporation, Vanadium Corporation of America, and earliest, the Pittsburgh Testing Laboratories. During World War I he was with the United States Bureau of Standards.

A native of Youngstown, Ohio, Dr. Grossman took his B.S. degree from Massachusetts Institute of Technology in 1911, and his Sc.D. at Harvard in 1930.

hearth furnace, but in the old days the pig iron was refined to soft iron by the much less efficient "puddling" process. The first puddling furnaces in Pittsburgh were built in 1819. Sheets were made by hammering, superseded later by rolling. The first mill in the United States to puddle iron and roll flat bars was built in 1816 between Connellsville and Brownsville. Soon angle iron, bar iron, boiler plate, and wire rope were being made. Then in 1847 William Kelly, a native of Pittsburgh, developed "Kelly's Air-Boiling Process" in Eddysville, Kentucky, for rapidly converting pig iron to steel. This is the process which lights up the night sky even in our day, though it is known now as the "Bessemer" process, after an English inventor of a similar process. The process revolutionized the steel business. The first commercial Bessemer steel rails rolled in the United States were rolled in 1867 at Johnstown. The railroads had started with iron rails. Growing westward from the East, the railroads had reached Pittsburgh by 1852, Chicago by 1853 and Kansas City in 1856. The first rolling of Bessemer steel rails at the new Edgar Thomson Works took place in 1875, the old *Allegheny Chronicle* proudly describing the plant output as being 225 tons daily. From then on, the growth was phenomenal, branching out from rails into beams, plate, bars, and sundry shapes.

BLAST FURNACE BUILT BEFORE 1857

Thus, in review, we see that between 1840 and 1880 charcoal in blast furnaces had been replaced by coke, cold blast had changed to hot blast, puddled iron had given way to Bessemer steel, the rich Lake Superior ores had begun to dominate the scene, and the railroads had begun their part in building up the steel industry. Other changes were to come. The Bessemer, in which molten pig iron is converted to steel by blowing air through it, was to lose its pre-eminence. Its place was largely taken by the open-hearth furnace, invented by Siemens in 1862, in which hot flames play over the charge as it is melted and refined. The preparation of coke changed also, for instead of wasting the gases liberated from coal in making coke, as in the "bee-hive" coke-ovens, the valuable gases are now recovered in the newer "by-product" coke ovens. Clairton, Pennsylvania, is the site of the largest by-product coke-oven plant in the world.

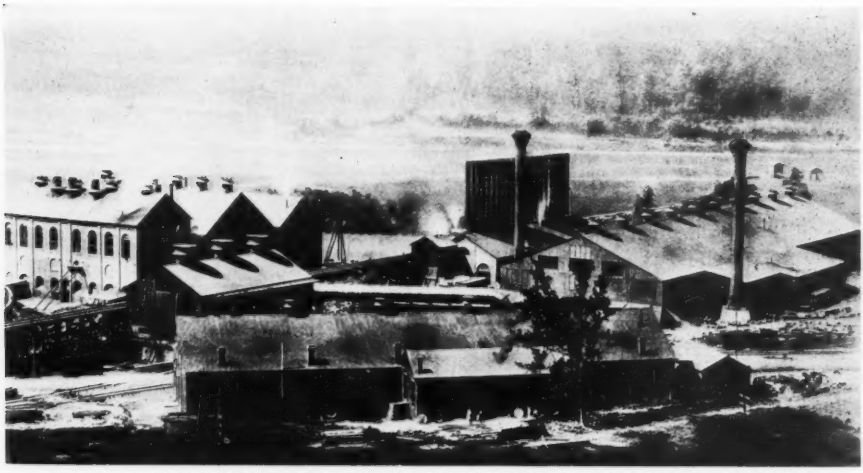
The first—or one of the first—sheet mills in America was built in Pittsburgh in 1818. The *Pittsburgh Almanac* of 1819 says that one Joshua Malen, formerly of Valley Forge, came here to make rolled sheet. Those sheets were of course of puddled iron. The sheet business developed in proportion to the rest of the steel business. Rolled for a long period as individual sheets, that process was superseded by the modern continuous wide-strip mill. Such a mill was first operated at Butler, Pennsylvania, in 1926 by the Columbia Steel Company, now the American Rolling Mill Company. About this time came the demand of the automobile industry for sheets in ever greater quantities, first for fenders, then also for doors and bodies, and finally also for tops.

THE COATING OF STEEL

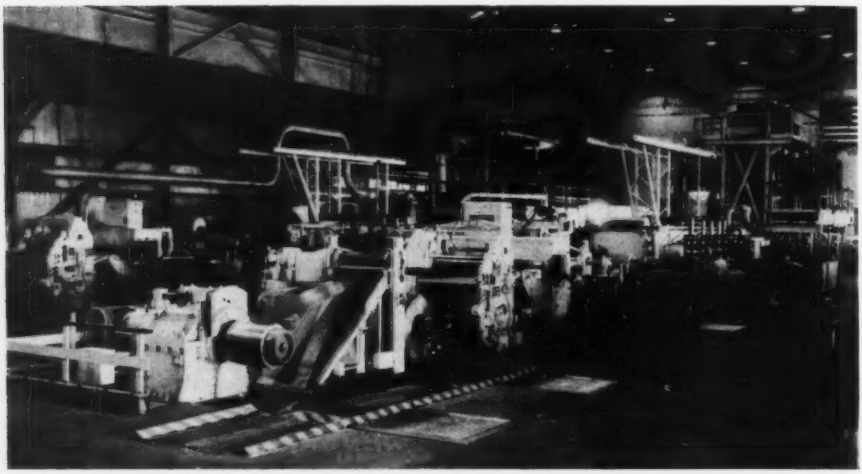
The coating of steel sheets also became a major industry. Coating with tin had already received its great impetus when Napoleon in 1809 offered a money prize for

process for preserving food for his armies. The prize was won in 1815 by a French confectioner, who heated the food slightly and packed it in glass or crockery jars, and a few years later the tin-plate makers of Wales adapted the process to containers made of tin-plate. The first tin-plate mill in the United States was built in the Pittsburgh district at Leechburg, Pennsylvania, in 1872 by the firm of Rogers and Burchfield. Then came the panic of 1873. The company failed in the next year, largely because of an interpretation by the Secretary of the Treasury that the existing protective tariff on tin plate was to be interpreted as applying only to plates of solid tin, despite the fact that tin plate consists almost entirely of steel, with a coating of tin so thin that it is measured in millionths of an inch. No further tin mills were built in the United States until the McKinley protective tariff became law in 1890. This law made possible the building of many tin mills, and as the demand for the convenience of canned foods increased, the tin-plate industry grew to tremendous proportions. A roster of tin mills built at that time in the Pittsburgh district alone would be too long for this article. This country now uses every year over twelve billion cans for food alone, and over four billion additional cans for such widely diversified products as oil, soap, antifreeze, aspirin, and ping-pong balls. Until recently all the tin plate had been made by a process wherein the elaborately prepared steel sheet was skillfully dipped into a bath of melted tin; upon withdrawing the sheet from the tin bath, a very thin coating of tin adhered to the steel. Then, about ten years ago, the first attempts were made in a Pittsburgh laboratory to produce a new kind of commercial tin plate by using the science of electroplating. In this method the tin, instead of being applied by the former hot dipping, was coated on the steel by depositing the tin from a water solution by means of an electric current. The immediate advantage of this method was that it could make tin plate with a tin coating only one-third as thick as formerly, thereby conserving tin. The method had scarcely reached commercial production when the war came, and immediately this Pittsburgh-born process was put into practice all over the country so as to conserve tin, because the Japs had come into possession of all of the world's major tin supplies. Today, this electrolytic tin plate is an established part of our economy. The quality of tin plate for food containers is undergoing constant improvement in the laboratories of the can-makers as well as the steel companies.

The coating of sheets with zinc (galvanizing) is also a process of major importance, because of the rust-resistance imparted by the zinc coating. The year



EDGAR THOMSON WORKS IN 1875, WHEN BESSEMER RAILS WERE FIRST ROLLED THERE



MODERN ELECTROLYTIC LINE FOR MAKING TIN PLATE, PITTSBURGH DISTRICT

1948 saw commercial continuous galvanizing of steel in wide strip form achieved in Pittsburgh by a newly developed process.

SPECIAL QUALITY STEELS

The first high-quality tool steel in America was made by Hussey, Wells & Company in 1860, later changed to the Hussey Binns Shovel Company of Charleroi in 1874. Joseph Park founded a crucible tool steel company in Pittsburgh in 1862, which became the Park Works of the Crucible Steel Company of America. These pioneers in tool steel were later joined by others. The crucible furnace, invented in England in 1740, has for this work been replaced by the electric furnace, invented in France in 1890.

Pittsburgh is also a center of manufacture of stainless steel, invented in Germany and in England in 1912 and 1913 respectively. The hard type, the British invention, was used for cutlery, and the soft type, the German invention, was first used for ornamental work. Both varieties owe their corrosion resistance to the presence of chromium in the alloy, and both were a by-product of research in guns. The soft types, which also contain nickel, soon came to be used in various places where their corrosion resistance was useful, especially in the oil industry and in the dairy industry. Modifications of this form are also finding increasing use, because of their heat resistance, in engine parts for the newer aircraft, including jet and ram-jet engines and in turbo superchargers. Stainless steel is made in large quantities by many of the plants in the Pittsburgh district, including the Allegheny Ludlum Steel Corporation, the Armco Steel Corporation, the Firth-Sterling Steel Corporation, the Jessop Steel Company, Crucible Steel Company of America, several Works of the Carnegie-Illinois Steel Corporation, Babcock and Wilcox Company, Latrobe Electric Steel Company, and Universal Cyclops Steel Corporation.

Another steel product made in large quantities in the Pittsburgh district is the so-called silicon transformer steel. This steel, invented by Hadfield in England in about 1895, contains up to 4 per cent of the element silicon, which imparts to it some highly desirable magnetic and electrical properties. The steel is used particularly in the cores of electrical transformers, and in motors and generators, making possible the transmission and conversion of electrical energy more economically. The first ingot made here was rolled in 1907 at Vandergrift, Pennsylvania. The Pittsburgh district has been in the forefront of manufacture of these steels on a large scale.

Tube and pipe is made in large quantities in the Pittsburgh district for a wide variety of applications, such as oil-well

pipe, water pipe, electrical conduit, and large diameter pipe for oil and gas lines. Organizations such as the National Tube Company, the Jones & Laughlin Steel Corporation, and Spang Chalfant and Company were pioneers and are very large manufacturers in this field.

LOCAL COMPANIES

Many local companies have a long history. Kloman Brothers, the forerunners of Carnegie, Kloman & Company, and thus of the United States Steel Corporation, began as a forge at Girty's Run in Millvale in 1858, and later transferred to 29th Street, Pittsburgh, where Andrew Carnegie joined them. Jones & Laughlin was organized in 1853. Spang Chalfant succeeded Etna Iron & Tube Works built in 1828. Pittsburgh Steel Company was organized in 1901 and Allegheny Steel Company in 1905.

Wrought iron, one of the early forms of iron, is characterized by good corrosion resistance, but the early method of manufacture was so laborious that it has virtually ceased as a commercial process. However, the A. M. Byers Wrought Iron Pipe Company, organized in Pittsburgh in 1864, introduced in 1930 a mechanical process for making synthetic wrought iron. This process continues in use as virtually the only source of wrought iron in the country today.

CARNEGIE TECH RESEARCH INVESTIGATOR

URANIUM AND RESEARCH

It may be remembered that uranium, the material of the atomic bomb, is also a metal, and it has touched the Pittsburgh steel industry in unusual ways. After World War I, the Standard Chemical Company was selling vanadium which it prepared from a "uranium vanadate" ore. Since the operation for vanadium was not very profitable, the company sought to find a use for the then wasted element uranium. It made uranium steel alloys that showed some promise but never quite found their place. In a different aspect of uranium, Andrew Carnegie once contributed $50,000 to Madame Curie for pursuit of the work of extracting radium from uranium ores. In a later day, numerous Pittsburgh steel metallurgists were involved in the bomb project. Today products of the atomic pile are being used as "tracers" in steel research, and an illustration herewith shows one of the workers, with proper protection from radiation.

Research in steel goes on in Pittsburgh on a large scale. The first large laboratory devoted exclusively to research on tin plate was established in Pittsburgh as long ago as 1912. All of the steel companies in the Pittsburgh district maintain research staffs, some of the larger companies maintaining large and well-staffed laboratories. Of equal importance for metallurgical research in Pittsburgh are the universities. The fine quality of the research in the metallurgical laboratories of the Carnegie Institute of Technology and the University of Pittsburgh is attested by the participation of their directors in most of the formal honors and lectureships of the country. In one sense, these laboratories are the most important metallurgical institutions in Pittsburgh, for upon them devolves the task of training the young scientists who must maintain the Pittsburgh metallurgical tradition.

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In February: "Physics in Pittsburgh."

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SCENE FROM "A MIDSUMMER NIGHT'S DREAM" AT CARNEGIE TECH LITTLE THEATRE

THE PLAY'S THE THING

By Austin Wright

On Michaelmas Day in 1662 that inveterate playgoer and uninhibited critic Samuel Pepys witnessed at the King's Theatre a performance of *A Midsummer Night's Dream* which, he observed, "I had never seen before, nor shall ever again, for it is the most insipid, ridiculous play that ever I saw in my life." Like many of his contemporaries, the diarist lacked reverence for Shakespeare; the Restoration audience would accept plays of the great Elizabethan only in "improved" versions which seem to our generation presumptuous and intolerable. But it is hard to believe that even the pugnacious Pepys could have resisted the charm of the *Midsummer Night's Dream* that was unveiled to enraptured Tech audiences by the department of drama last November, two hundred and eighty-six years later.

This magnificant production, directed by Henry Boettcher, was in many respects so fine as to call for the superlatives of a Hollywood press agent. The fairy scenes were hypnotically beautiful, a shimmering triumph made possible by the united efforts of director, players, and technical experts. The woodland setting designed by E. Albert Heschong and the lighting designed by William Nelson transformed the stage into a moonlit glade wherein the onlooker wandered in a sort of lyric maze. The term "theatre magic" needs no further definition for those who strolled with the players in that Athenian wood.

A Midsummer Night's Dream, skillfully contrived though it is, has always seemed to me to have two structural weaknesses. The first is the stress laid upon the story of the lovers; surely Shakespeare made a little too much of the protestations and misunderstandings of that bemused quartet. The second is the actual performance of the "most lamentable comedy" of Pyramus and Thisbe; the author was committed to it by the design of his drama, but the burlesque and the horseplay of the hempen homespuns and the barbed but not-so-witty comments of the great folks who witness the performance add up to something of an anticlimax.

Only in the handling of these two problems did the Tech production strike me as possibly subject to adverse criticism. Mr. Boettcher elected to enliven the lovers' roles by turning their plight into farce. This ingenious device, which was new to me, has something to be said for it; there is no question that as carried out on this occasion it gave the lovers a comic appeal

which considerably brightened their scenes. I suppose that the matter is entirely one of individual preference. The burlesque seemed to me too broad at times; and it cannot be denied that the beautiful poetry which glorifies many of the speeches is largely overlooked by an audience constantly prodded into laughter. Particularly regrettable was the slurring over of Lysander's lyric lament for the troubled course of true love, "swift as a shadow, short as any dream," which like all bright things comes so quick to confusion. As for the performance of the rude mechanicals before their Duke, the returns in true comedy to be derived from prolonged horseplay seem to me to diminish very rapidly!

In any event, it would be a pity to imply, by dwelling upon these two points, an attitude of disapproval which not even the sourest critic could adopt. From the moment that the great white silk curtain was first displayed, until the moment when Puck vanished in a shower of spangles, the audience was treated to a succession of glittering visions accompanied by expert reading of some of the loveliest verse ever written.

Among the lovers, the portrayal of Helena was the most consistently successful, though the second Hermia also gave an outstanding performance. The young actors who played Bottom and Company were delightful in their early appearances. That most sorely tried of theatrical producers, Peter Quince, was admirably played, and in the first cast there was a rich performance of the minute role of Starveling. Snug the joiner, that somewhat less than brilliant intellect to whom is assigned the intricate role of the Lion, also did bravely. As for bully Bottom, that very paramour for a sweet voice, that best wit of any handicraft man in Athens, that self-confident genius who would gladly play Pyramus and Thisbe and the Lion too, that mighty lover who accepts the devotion of Titania as no more than his due—what actor can hope to bring him to life in a way to please all the men who have recognized their own conceit and fatuity in this superb comic character? Bottom was often hilariously funny, but his stupidity did not seem shot through with those streaks of insight which make him a very genius of stupidity.

But it was with the rising of the curtain upon the woodland vista of Act II Scene I that the production sprang from the level of competence to that of brilliance. New to me was the stunt of representing the lesser fairies by means of marionettes, an idea carried out with distinguished success. And the first appearance of the stately Oberon and his diaphanous Queen, with the famous opening gambit, "Ill met by moonlight, proud Titania," was among the most impressive moments that I have ever experienced in the theatre. The voices of this majestic pair, their bearing, their stage movement, the glitter of their robes, the moonlight which flooded them—all were perfectly in accord with the mood of the play, "of imagination all compact"; and Puck—particularly the tiny actress of the first cast—was a delightful creature from another planet than ours. The musical effects in the fairy scenes were splendid, and the ghostly visitation of Oberon and Titania to the scene of the late noisy revels and the brief closing speech of Puck brought the play to a conclusion steeped in beauty.

These are troubled times we live in, as were the plague-haunted years of Shakespeare's life; and as we face a future blackened by the threat of the atom bomb, the jaws of darkness seem indeed ready to devour us. But witnessing such a spectacle as this performance of *A Midsummer Night's Dream* is good for human morale. We are of the same clay, after all, as the poet whose mind conceived such beauty, and we are capable of rising briefly to heights of emotional and spiritual and intellectual power. And if the bombers do come over—well, it was a great thing to have belonged to the human race.

AUSTIN WRIGHT

The annual production of a Shakespearean play by the Tech Little Theatre is always an event of great interest to local theatergoers. *A Midsummer Night's Dream*, given fifteen performances from November 11 through 23, proved a climax in the long series of successful productions of the work of the illustrious Bard. Austin Wright, head of the English department at Carnegie Tech, continues his drama reviews.

THE SCIENTIST'S BOOKSHELF

By M. Graham Netting

BIRDS OVER AMERICA By Roger Tory Peterson. New York: Dodd, Mead & Co. 1948. 342 p. 105 photographs. $6.00. Carnegie Library call no. 598.2 P45b.

Inflation is not the sole reason why museums and like institutions need larger budgets today than ever before. Their clientele of persons interested in nature as a leisure-time activity has increased tremendously. In 1871, twenty years after Audubon's death, bird clubs were nonexistent in this country, but William Brewster and Henry Henshaw, meeting weekly in the former's attic in Cambridge, Massachusetts, were unconsciously laying the groundwork for the founding two years later of the Nuttall Club, now the oldest bird club in America. Today four hundred thousand school children belong to Junior Audubon Clubs, half a million people in one hundred cities view Audubon Screen Tours, and in Detroit a lecture by Roger Tory Peterson was deliberately announced the day following because the hall held only one thousand, and twice as many more would have turned up if the meeting had been publicized.

This growth in number of bird devotees, which has been paralleled in trend although not equalled in total in other branches of natural history, has transformed public opinion. "Granted there are special reasons why some individuals like birds," Peterson writes, "there is far more general interest in birds now than there was a half-century ago. In those days a man who scouted around the woods for 'dickey birds' felt self-conscious about it, almost apologetic. Today so many people are taking to the out-of-doors that a man who does not watch birds or grow flowers, collect minerals, study the stars, or show a little interest in at least one of the natural sciences is likely to feel uneasy about it and offer his excuses."

In *Birds over America*, Peterson, whose *Field Guides* are as standard field equipment as binoculars for both eastern and western bird watchers, treats so many facets of the sport and science of birding that no chapter-by-chapter summarization is feasible. In a sense this book is a continent-spanning bird tour with one of the most brilliant and unassuming ornithologists of our day as leader. It is far more than a chronicle of good and bad days afield, however. The personalities of birds and bird men are skillfully interwoven, and nearly every page bears witness that the author's acquaintance with ornithological literature is as comprehensive as his field experience. No other writer has portrayed so well the competitive spirit behind bird lists, the thrills of the "Big Day," the regional rivalry involved in the Christmas census, and the contributions of these three "games" to scientific ornithology.

Neither acquaintance with Peterson nor familiarity with the necessarily clipped style of the *Field Guides* had led me to anticipate that he would be as facile with a pen as with a brush. Two of my friends in reviewing a textbook a decade ago offered the valid criticism "Simple things are made complex, and complex things are made well-nigh incomprehensible." Peterson, happily, has achieved the reverse. He presents technical matters in such everyday terms that the reader is unaware that there is anything formidable about them. Territorialism, for example, is reduced to its essentials: "Each male robin is a property owner. . . . Song is not only an invitation to a prospective bride, but also a challenge to a rival." Sly but never malicious humor adds interest, and birds which have been described so frequently that authors are hard pressed to avoid hackneyed phrases are characterized here in apt and unorthodox fashions. Who but Sutton, Kieran, or Peterson would compare a

newly hatched Leach's petrel to the "linty sweepings from a vacuum cleaner" or accuse a great blue heron in flight of "trailing its collapsible legs like loose baggage"?

One of the most figure-studded chapters deals with bird populations and the effect man has had upon them. In the entire world some eighty-six hundred full species of living birds are represented by approximately one hundred billion individuals. North America's avifauna totals only about six hundred and fifty species, but Peterson estimates that there are probably close to six billion breeding land birds in the United States alone each spring. In general, man has greatly reduced the numbers of the larger birds and improved conditions for the smaller birds. Hunting has been a serious factor with some species but drainage has played a major role also, for "at least half a billion birds may have been eliminated from the face of the continent by the simple process of digging ditches."

Three Arch Rocks in Oregon, with an estimated twenty-two thousand pairs of murres per acre, and tricolored redwing colonies in California, with five thousand to ten thousand nests per acre, are the highest density avian communities in the United States. In contrast, the Bonneville Salt flats, west of Great Salt Lake, although attractive to automobile racers, are about the largest birdless area in the country. "One can ride for miles across these sun-baked wastes without seeing a bird. Whole square miles are as sterile as an operating table."

The barn owl is a most efficient mouse trap, but instead of the world's beating a path to its door it is often unappreciated when it seeks out its own accommodations near mouse-attracting humans on every continent. Although this golden owl often finds sanctuary in church belfries, Peterson testifies that it is nonsectarian for he has found it "in the square tower of a synagogue in Alexandria, Virginia, in a fashionable Episcopal Church at Rye, New York, in a little white Baptist Church on the east coast of Florida, and in a famous old Franciscan mission in California."

Roger Tory Peterson is a "rare bird" himself. Most crack artists scornfully leave the camera to us lesser mortals who cannot paint. His bulky Graflex goes everywhere with him, even across tideflats where the mud sucks at his boots "like an osculating cow." The eighty pages of his photographs included in this book prove that Peterson is a first-rank bird photographer. This poses the question of the reactions of such a triple-threat ornithologist when he encounters a new bird—does he grab his camera, reach for his sketch pad, or flip open his notebook?

Conservationists will find this a heartening book. Perhaps human nature does not change but human attitudes can and do change—which augurs well for the outlawry of war. (I hope that readers fifty years hence will be as shocked in retrospect by statistics of human wastage as we are today by records of avian slaughter for the millinery trade.) "In a single year, one hundred thousand terns were shipped from the Virginia Islands to New York, where they brought ten cents apiece." The Audubon movement and a great naturalist-president, Theodore Roosevelt, whose signature legalized no less than thirty-eight federal refuges, turned the tide for the seabird colonies and egret rookeries.

Within a century bird study has grown to epic proportions. Scores of handbooks culminating in Peterson's *Field Guides* facilitated bird identification by amateurs and swelled the numbers of bird watchers. Their observations have yielded so much information about American birds that *Birds over America* could be written. To all who have had a part in its making and to countless thousands more who should be interested in birds, I commend it as the one book that explains the lure of bird-watching and the importance and fascination of birds that make them worthy of the friendly scrutiny of all men in all lands.

M. GRAHAM NETTING

M. Graham Netting, the new assistant director of the Museum, continues his work as curator of herpetology. Although he makes no claim to being an authority on birds, one phase of his research in herpetology has dealt with interrelations of reptiles and birds. Also Mr. Netting quotes paleontologist J. LeRoy Kay, "From a reptile evolved the first bird"—a fact not commonly realized.

STILL LIFE—Pieter Claesz, Dutch, 1597/8-1661—*The Art Institute of Chicago*

FAMILIAR FOODS IN FAMOUS PAINTINGS

GOOD food is a joy to everyone. But perhaps few people have expressed such a hearty satisfaction in the simple pleasures of the table as the Dutch still life painters of the seventeenth century.

▶ This raisin pie, succulent and sweet-scented in its deep walled "coffin" crust, the aromatic, half-peeled lemon, the luminous olives, nuts, and the wealth of breads and cakes and cookies all bespeak a lively interest and a frank delight in eating.

▶ Yet this decorative, well-ordered composition is more than a pretty image of the lip-smacking satisfactions of the past. Here we see the loveliest play of fluid light and shadow, bright reflections that give a sense of depth and rhythm, and a wonderfully subtle feel for varied textures.

▶ The snowy lace-edged linen laid on rosy damask, graceful pewter tankard, sheer glass tumblers shining gently in the shadow, all these reveal a warm and sympathetic eye for beauty in the commonplace. A painting such as this is truly a tone poem, as pleasing to today's discriminating eye and palate as it was three hundred years ago in Holland.

▶ Pieter Claesz of Haarlem, 1597/8-1661, came from a family of notable painters. His work is distinguished for tightly integrated compositions, realistic detail, and excellent tone value. Signed only P. C., much of his work became obscure; but he is recognized as a great still life master, and his paintings are esteemed as valuable commentaries on the everyday things of life.

▶ The familiar foods which we see here, make this long ago Dutch table seem real and close to our own lives. These tender juicy raisins are the very kind we have today, grown by Sun-Maid in California, and distributed by Heinz. And there are Queen Olives among the 57 Varieties, as proud and plump and piquant as the morsels pictured here. We today are heirs to all this great tradition of good eating, in our time made magically ready-to-serve in the foods prepared by H. J. Heinz Company.

—Heinz School Service Library

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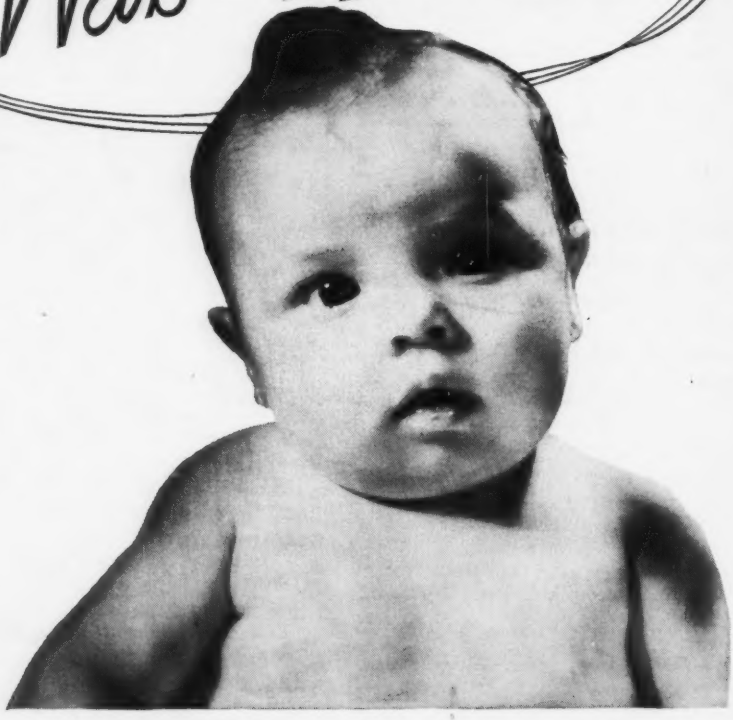

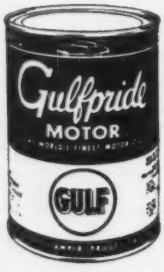

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